

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A method for data tabulation processing of a data file having a plurality of records in a plurality of data type fields, comprising:

cl i) a pre-processing stage in which, for each individual data type field, each distinct data value is identified and allocated a numerical identifier unique for that data type field; and

ii) a tabulation stage in which, for each data record, a cell of a result array is determined based on the numerical identifiers for that record, and a resulting value stored in the result array cell is incremented.

2. (Previously Presented) A method as in claim 1, wherein the preprocessing stage includes generating from said data file an encoded data file containing the numerical identifiers for the data values in each field, and a mapping file which stores a correspondence between each of the distinct data values in the fields and the corresponding numerical identifiers.

3. (Currently Amended) A method as claimed in claim 2, wherein a plurality of encoded data files are generated in the pre-processing stage, one for each of the data type fields.

4. (Original) A method as claimed in claim 2, including generating a tabulation result from said result array and said mapping file.

5. (Currently Amended) A method as claimed in claim 1, wherein said tabulation stage includes initializing the result array having a number of cells determined by the product of the number of numerical identifiers in the data type fields.

6. (Currently Amended) A method as claimed in claim 1, wherein the tabulation stage includes selecting at least two data type fields from the plurality of data type fields for tabulation and generating the result array utilizing the numerical identifiers for the selected data type fields.

7. (Currently Amended) A method as claimed in claim 6, wherein for N selected data type fields, a cell of the result array is identified for each data record according to :

$$I = K_1 + D_1 K_2 + D_1 D_2 K_3 + \dots + D_1 D_2 \dots D_{N-1} K_N$$

where I is the cell identity,

K_1, K_2, \dots, K_N are the numerical identifiers for the record in the selected fields, and D_1, D_2, \dots, D_{N-1} are numbers of distinct values in the selected fields.

8. (Currently Amended) A system for data tabulation processing of a data file having a plurality of records in a plurality of data type fields, comprising:

i) a coding processor in which, for each individual data type field, each distinct data value is identified and allocated a numerical identifier unique for that data type field; and


ii) a tabulation processor in which, for each data record, a cell of a result array is determined based on the numerical identifiers for that record, and a resulting value stored in the result array cell is incremented.

9. (Original) A system as claimed in claim 8, wherein said coding processor generates from said data file an encoded data file containing the numerical identifiers for the data values in each field, and a mapping file which stores a correspondence between each of the distinct data values in the fields and the corresponding numerical identifiers.

10. (Currently Amended) A system as claimed in claim 8, wherein a plurality of encoded data files are generated by the coding processor, one for each of the data type fields.

11. (Currently Amended) A system as claimed in claim 8, wherein a selection of at least two data type fields from the plurality of data type fields is made in the tabulation processor, which generates the result array utilizing the numerical identifiers for the selected data type fields.

12. (Currently Amended) A system as claim in claim 11, wherein for N selected data type fields, the tabulation processor identifies a cell of the result array for each data record according to:


$$I = K_1 + D_1 K_2 + D_1 D_2 K_3 + \dots + D_1 D_2 \dots D_{N-1} K_N$$

where I is the cell identity,

K_1, K_2, \dots, K_N are the numerical identifiers for the record in the selected fields, and D_1, D_2, \dots, D_{N-1} are numbers of distinct values in the selected fields.

13. (Previously Presented) A method as in claim 1, wherein the preprocessing stage includes generating from said data file an encoded data file containing the numerical identifiers for the data values in each field, and a mapping file which stores a mapping information between each of the distinct data values in the fields and the corresponding numerical identifiers.

14. (New) A method for data tabulation processing of a data file having a plurality of records in a plurality of data type fields, comprising:

a pre-processing stage in which, for each individual data type field,

identifying each distinct data value;

assigning a numerical identifier for each of said distinct data values, said numerical identifier being unique for each individual data type field; and

storing all of the unique numerical identifiers for said individual data type fields into an individual file; *find an array*

a tabulation stage in which, upon receiving a request specifying at least one tuple, *array ?*

creating a resulting array with at least one cell, wherein one cell is allocated for one combination from said request;

array 112
incrementing a value stored in the cell corresponding to said combination, when said combination is encountered; wherein said value of the cell is a number of said combinations encountered.

15. (New) The method set forth in claim 14, wherein the preprocessing stage further comprises creating a mapping file for each of said data type fields, wherein said each mapping file stores correspondence relationships between each of the distinct data values and the corresponding numerical identifiers.